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**Complete if Known**

<b>Application Number</b>	09/842,975
<b>Filing Date</b>	April 26, 2001
<b>First Named Inventor</b>	Richard D. Harris
<b>Group Art Unit</b>	2811
<b>Examiner Name</b>	

(use as many sheets as necessary)

Sheet	1	of	4
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Attorney Docket Number	110003.97397
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## U.S. PATENT DOCUMENTS

U.S. PATENT DOCUMENT						
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
W		5,578,976		Yao	11/26/1996	
W		5,761,350		Koh	6/2/1998	
W		5,783,340		Farino et al.	7/21/1998	
W		5,804,314		Field et al.	9/8/1998	
W		5,903,380		Motamedi et al.	5/11/1999	
W		5,959,516		Chang et al.	9/28/1999	
W		5,995,688		Aksyuk et al.	11/30/1999	
W		6,046,066		Fang et al.	4/4/2000	
W		6,071,426		Lee et al.	6/6/2000	
W		6,094,102		Chang et al.	7/25/2000	
W		6,100,477		Randall et al.	8/8/2000	
W		6,114,794		Dhuler et al.	9/5/2000	
W		6,137,206		Hill	10/24/2000	
W		6,159,385		Yao et al.	12/12/2000	
W		6,188,322		Yao et al.	2/13/2001	
W		6,232,841		Bartlett et al.	5/15/2001	
W		6,232,847		Marcy, 5th et al.	5/15/2001	

## FOREIGN PATENT DOCUMENTS

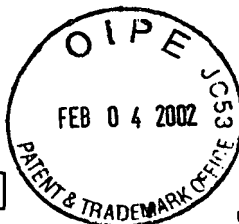
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Substitute for form 1449B/PTO		<b>Complete if Known</b>			
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	09/842,975		
		Filing Date	April 26, 2001		
		First Named Inventor	Richard D. Harris		
		Group Art Unit	2811		
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Sheet	2	of	4	Attorney Docket Number	110003.97397

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Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
✓	1	Toumazou, C. et al., n-step Charge Injection Cancellation Scheme for Very Accurate Switched Current Circuits, Electronic Letters, V.30 (9) 680-681: 1994.
✓	2	Emmerich, H., et al., A Novel Micromachined Magnetic-Field Sensor, MEMS 99 IEEE Conference, January 17-21, 1999, IEEE Catalog No. 99ch36291c.
✓	3	Madou, Marc, Fundamentals of Microfabrication, Chapters 2-4, CRC Press LLC, Boca Raton, FL: 1997.
✓	4	Kovacs, Gregory T.A., Micromachined Transducers Sourcebook, Table of Contents, pp. 77-119 and Index, WCB McGraw-Hill, U.S.A.: 1998.
✓	5	Teegarden, Darrell et al., How to Model and Simulate Microgyroscope Systems, IEEE Spectrum, 66-75, July 1998.
✓	6	Emmerich, Harald et al., Magnetic Field Measurements with a Novel Surface Micromachined Magnetic-Field Sensor, IEEE Transactions on Electron Devices, V. 47 (5) 972-977, May 2000.
✓	7	McGruer, N.E. et al., Electrostatically Actuated Microswitches; Scaling Properties, Solid-State Sensor and Actuator Workshop, Hilton Head Island, South Carolina, June 8-11, 1998, pp.132-135.
✓	8	Miyajima, Hiroshi et al., High-Aspect-Ratio Photolithography for MEMS Applications, J. of Microelectromechanical Sys., V.4(4) 220-229, Dec. 1995.
✓	9	Lu, Crist et al., A Monolithic Surface Micromachined Accelerometer with Digital Output, IEEE J. of Solid State Circuits, V. 30 (12) 1367-1373, Dec. 1995.
✓	10	Chen, Ming-Jer et al., Weak Inversion Charge Injection in Analog MOS Switches, IEEE J. of Solid-State Circuits, V. 30 (5) 604-606, May 1995.
✓	11	Lemkin, Mark A. et al., A Fully Differential Lateral S <sup>2</sup> Accelerometer with Drift Cancellation Circuitry, Solid-State Sensor and Actuator Workshop, Hilton Head, South Carolina, June 2-6, 1996, pp. 90-93.

Examiner Signature		Date Considered	11/05/02
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✓	12	Boser, Bernhard E. et al., Surface Micromachined Accelerometers, IEEE J. of Solid-State Circuits, V. 31 (3) 366-375, March 1996.	
✓	13	Fedder, Gary K. et al., Multimode Digital Control of a Suspended Polysilicon Microstructure, J. of Microelectromechanical Sys., V. 5 (4) 283-297, Dec. 1996.	
✓	14	Noriega, Gerardo, Sigma-Delta A/D Converters-Audio and Medium Bandwidths, Technical Notes-DT3 from RMS Instruments website: www.rmsinst.com, 6 pages, February 1996.	
✓	15	Internet page: Decimator Filter DLL, NeuroDimension Inc.: www.nd.com, May 31, 2001.	

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